Quality Control

| Work Order: Date: Date: Work Order update only | DQA: | | _ Date: | | | | | | | | | | | rala <i>c</i> |
|--|---------------|----------------|------------|------------|----------|------------------------------|-----------|----------|-------------|-------------|--------------|---------------|----------|--------------------|
| DISPOSITION Rework Scrap Use-as-is Suspected Unapproved Use-as-is Use-as-is Suspected Unapproved Use-as-is Use-as-is Use-as-is Suspected Unapproved Use-as-is Use- | | | | | | WORK ORDER NON- | -CC | NFO | RMANCE / UF | PDATE | | _ | | AEROSPACE |
| Rework Skid-tube Crosstube Water Engineering Quality | QA Closed: | n . | Date: | | | | | | ·· | W | ork Order up | date only | | |
| Rework Scrap Matchining Small Fab Prod. Eng. Coor. Quality Quality NCR No. Stephen Suspected Unapproved Suspected Unapp | Work Order | ·: | | | | DISPOSITION | | | | AGAINST DE | PARTMENT | /PROCESS | | |
| Part No. Scrap Use-as-is Suspected Unapproved Use-as-is Us | | - | | | | Rework | | | Skid-tube | Crosstube | 1 | Water Jet | \neg | Engineering |
| Root Cause Date Step Qty Or non-conformance Chief Eng Description Date Verification QC Inspector Design Doc/Data Equip/Tooling Handling/Pre Material Operator Offset/Setup Process Supplier Training Transport Unapproved Unapproved Bending Gear General Ending Gear General Supplier Composite Supplier | Part No | o. | | | | | | 1 | | | Pro | d. Eng. Coor. | ヿ | · · · · · · · |
| Root Caus Date Step Otty Ornon-conformance Chief Eng Description Date Verification OC Inspector Design Doc/Data Caus Date Step Otty Ornon-conformance Chief Eng Description Date Verification OC Inspector Design Doc/Data Caus Date Date Date Verification OC Inspector Design Doc/Data Caus Date Date Verification OC Inspector Design Doc/Data Caus Date Date Date Verification OC Inspector Occident Date Date Date Date Date Date Date Dat | | | | | | Use-as-is | | Thern | noforming | Finishing | Rec/Stor | re/Packaging | | Other |
| Cause Date Step Qty Or non-conformance Chief Eng Description Date Verification QC Inspector Design Doc/Data Cause | NCR No | D | · · · | | | Suspected Unapproved | | | Large Fab | Composite | | Supplier | | |
| Cause | Root | | | | Desc | ription of work order update | | nitial | Act | ion | Sign & | | T | |
| Doc/Data Capular Cap | Cause | Date | Step | Qty | | or non-conformance | Ch | ief Eng | Descr | iption | 1 | Verification | n | QC Inspector |
| Equip/Tooling | Design | | | | | | | | | | | | | |
| Handling/Pre | Doc/Data | | | | | | | | | | | | i | |
| Material Operator Offset/Setup Process Supplier Training Transport Unapproved Unapproved Bending Gear General Bending Gear General Bending Bend Folio/Program Outside Dimensions Pressure/Forced | Equip/Tooling | | | | | | | | | | | | | |
| Operator Offset/Setup Offset/Setup Process Supplier Training Transport Unapproved Unapproved Denote Section Se | Handling/Pre | | | | | | | | | | | | | |
| Offset/Setup Process Supplier Training Transport Unapproved Unapproved Bending Bend Bend Bend Double Folio/Program Double Folio/Program Double Folio/Program Double Folio/Program Double Folio/Program Double Dimensions Pressure/Forced | Material | | | | | | | | | | | | ł | |
| Process Supplier Training Transport Unapproved Tanding Gear Bending Tending Gear General Folio/Program Outside Dimensions Pressure/Forced | Operator | _ | | | | , | | | | | | | - | |
| Supplier Training Transport Unapproved Tanding Gear Bending Bending Bend Transport Tra | Offset/Setup | | | | | | ļ | | | | | | | |
| Training Training Transport Unapproved To Bending Training Trainin | Process | _ | | | | | | | | | | | | |
| Transport Unapproved | Supplier | | | | | | | | | | | | | |
| Unapproved Bending Bend Folio/Program Outside Dimensions Pressure/Forced | Training | _ | | | | | | | | | | | | |
| FAULT CATEGORY Landing Gear General Bending Bend Folio/Program Outside Dimensions Pressure/Forced | Transport | _ | | | | | | | | | | | ł | |
| Landing Gear General Bending Bend Folio/Program Outside Dimensions Pressure/Forced | Unapproved | | <u> </u> | <u> </u> | | | <u> </u> | | | | <u> </u> | | \perp | |
| Bending Bend Folio/Program Outside Dimensions Pressure/Forced | | | | | | | FA | JLT CAT | regory | | | | | |
| | Landin | | | | _ | 7 | | l | | | 7 | 1 | _ | |
| | - | - | | | \vdash | | \vdash | | 'rogram | <u> </u> | - | | — | |
| Centre Not Concentric BOM/Route Grain Over/Under tolerance Set-up | <u> </u> | - | lot Concer | ntric | - | 4 | <u> </u> | | | | 1 | | \vdash | • |
| Cracks Broken/Damage/Defect Hardware Part Incorrect Temperature/Cure | - | | ml./Dimmle | /\data==== | - | | | | | | ┥ | | \vdash | , |
| Crimp/Kink/Ripple/Wave Burrs Inspection Incomplete/Unqualified Part Lost/Missing Weld | , - | | пк/кірріе | /wave | | | <u> </u> | · | • | · | 4 | = | —— | |
| Cuffs Contamination Instructions Incomplete/Unclear Part Moved Wrong Stock Pulled Crushing Countersink Misaligned/off center Positioned Wrong | - | | • | | . | | \vdash | | • | Inclear | - 1. | | 'لـــ | Wrong Stock Pulled |
| | - | ⊣ | | | - | 1 | ₹ | 1 | | <u> </u> | -(| | | |
| Tower 2033/3dige Other | - | | | Tube | - | | \vdash | | | Ĺ | Jrower Loss/ | Surge | Щ | Uther |
| A Martin /Cl. 11 | <u> </u> | | | | - | 1 | \vdash | 1 | | | | | | |
| Turning Sequence Drill Holes Off-set Out of Calibration | | - | | | - | 4 | | | | | | | | |
| | <u> </u> | | | | \vdash | 4 | \vdash | 1 | | | | | | |
| Wave/Twist in Tube Fit/Function Out of Sequence | - A | | | |) Revu | [Fig runction | <u> —</u> | Out of : | bequence | | | | | |

| Work Orde June-12-13 9:11 | |)2937 | | *102 | 9937* | | | | | | Page 2 |
|---|--------------------|---|---------------------------|------------------------------|------------------------|--------------|--------------|---------------|---------------|------------------|-----------------------|
| Revision ID: | D4012-1 Cushion | | | Accept | *N900 | <u>)</u> 040 | 100 |)* s | Setup Sta | iV | S1* S2* |
| Start Date: Required Date: Reference: | 6/11/13 6/11/13 | Start Qty: 16.00 Req'd Qty: 16.00 | *16* *16* | | Cust Item Customer: | | | | | | • 11 |
| Approvals: | | an: | Date: | Tooling: SPC (Y/N): | | Date: | | F | Run Sta St | *N op *N | R1* R2* |
| Sequence ID/ Work Center II 123 *123* Small Fab | D | Operation Description Memo | | Set Up/ Run Hours 0.00 | Tool ID | Tool# | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp 13-11-27 |
| 126 *126* QC Quality Control | | | D FORM CUSHION AS P | | | | | 18 | | | |
| *130 *130* Packaging Packaging | | Identify as per dwg & Sto Memo | ck Location: <u>874</u> 5 | 0.00 | | | | _18x_ | • | /3 | DAS 26 |

| DQA: | | | Date: | | | | | | | | | | |
|---------------|---------------|------------|---------------------------------------|---------|----------|------------------------------|----------|-----------|--------------------|------------|---------------|---------------------------------------|--------------------|
| | | 4 | | | | WORK ORDER NON- | -CC | ONFO | RMANCE / UP | DATE | | | A E R O S P A C E |
| QA Closed: | | | Date: | | | | | | | W | ork Order up | date only | |
| Work Orde | er: | | | | | DISPOSITION | | | | AGAINST DI | PARTMENT | PROCESS | |
| | - | | · · · · · · · · · · · · · · · · · · · | | | Rework | 1 | | Skid-tube | Crosstube |] | Water Jet | Engineering |
| Part N | No. | | | | | Scrap | | 1 | Machining | Small Fab | Pro | d. Eng. Coor. | Quality |
| | _ | | ···· | · · · · | _ | Use-as-is | | | noforming | Finishing | - | e/Packaging | Other |
| NCR I | No | | | | | Suspected Unapproved |] | | Large Fab | Composite | | Supplier | |
| Root | | | | | Desci | ription of work order update | | nitial | Acti | on | Sign & | · · · · · · · · · · · · · · · · · · · | |
| Cause | | Date | Step | Qty | | or non-conformance | Ch | ief Eng | Descri | ption | Date | Verification | QC Inspector |
| Design | | | | | | | | | | | | | |
| Doc/Data | | | | | | | | | | | | | |
| Equip/Tooling | Ш | | | | | | | | | | | | |
| Handling/Pre | Ц | | | | | | | | | | | | |
| Material | Ц | | | | | | | | | | | | |
| Operator | Щ | | | | | | | | | | | | |
| Offset/Setup | | | | | | | | | | | | | |
| Process | Щ | | | | | | | | | | | | |
| Supplier | Щ | | | | | | | | | | | | |
| Training | Ш | | | | | | | | | | | | |
| Transport | Ш | | | | | | | | | | | | |
| Unapproved | L. J | · | 1 | | | | L | | | | 1 | | |
| | | | | | | | FA | ULT CA | TEGORY | | | | |
| Landi | | | | | _ | General | | 1 | _ | _ | 7 | | ٦ |
| | \vdash | Bending | | | - | Bend | <u> </u> | 1 | Program | - | Outside Dim | <u> </u> | Pressure/Forced |
| | Н | Centre No | ot Concer | ntric | _ | BOM/Route | | Grain | | <u> </u> | Over/Under | | Set-up |
| | ш | Cracks | | 6 | <u> </u> | Broken/Damage/Defect | <u> </u> | Hardwa | | | Part Incorred | — | Temperature/Cure |
| | - | Crimp/Kir | nk/Ripple | /Wave | - | Burrs | \vdash | 1 ' | ion Incomplete/Un | · – | Part Lost/Mi | ssing | Weld |
| | Н | Cuffs | | | - | Contamination | \vdash | 4 | tions Incomplete/U | nclear | Part Moved | | Wrong Stock Pulled |
| | \vdash | Crushing | | | - | Countersink | - | 1 1 | gned/off center | <u> </u> | Positioned V | | |
| | - | Heat Trea | | T L. | }_ | Cut Too Short | \vdash | Mislabe | | L | Power Loss/ | Surge | Other |
| i | | Inspection | | ıupe | \vdash | Drawing Drill Holos | \vdash | Misrea | | | * | | |
| 1 | _ | Marks/Ch | | | - | Drill Holes | \vdash | Off-set | | | | | |
| · | $\overline{}$ | Turning S | | | <u> </u> | Finish | - | 1 | Calibration | | | | |
| | 11 | Wave/Tw | ist in Tub | oe e | 1 | Fit/Function | 1 | IOut of S | Sequence | | | | |

Work Order ID 102937 Page 3 June-12-13 9:17:04 AM Item ID: D4012-1 Accept *N900040100* Setup Start **Revision ID:** Cushion **Item Name:** *16* **Start Oty: 16.00 Start Date:** 6/11/13 **Cust Item ID:** Required Date: 6/11/13 Req'd Qty: 16.00 *16* **Customer:** Reference: Run **Tooling:** Process Plan: Date: Approvals: Date: Stop QC: SPC (Y/N): Date: Date: Sequence ID/ Operation Set Up/ Accept Reject Tool ID Tool # Plan Reject Insp. Number Work Center ID Qty Stamp **Description Run Hours** Code 140 QC21- Final Inspection - Work Order Release 0.00 *140* QC 0.00 Memo Quality Control

| DQA: | | 1 | Date: | | | | | | | | | | |
|--------------------|----------|------------|------------|-------|----------|------------------------------|-----|----------|-------------------|------------|---------------|-----------------|---------------------------------------|
| | | | | | | WORK ORDER NON- | -CC | ONFO | RMANCE / U | PDATE | | | AEROSPACE |
| QA Closed: | | : | Date: | | | | | | | V | Vork Order up | odate only | |
| Work Orde | ٦r. | | | | | DISPOSITION | | | | AGAINST D | EPARTMENT, | /PROCESS | |
| | ••• | | | | | Rework | | | Skid-tube | Crosstube | 7 | Water Jet | Engineering |
| Part N | lo. | | | | | Scrap | | , | Machining | Small Fab | Pro | d. Eng. Coor. | Quality |
| | • | | | | | Use-as-is | | Thern | noforming | Finishing | | re/Packaging | Other |
| NCR N | lo. | | | | | Suspected Unapproved | | | Large Fab | Composite | | Supplier | |
| | | <u> </u> | | | | | | | | • | 1 | ··· | |
| Root | | Data | C+ | 0+ | Desci | ription of work order update | | nitial | | ion | Sign & | Maniffa a Airea | 001 |
| Cause | | Date | Step | Qty | | or non-conformance | Cn | ief Eng | Descr | ription | Date | Verification | QC Inspector |
| Design Doc/Data | _ | | | | | | | | | | | | |
| Equip/Tooling | | | , | | | | | | | | | | |
| Handling/Pre | | | | | | | | | | | | | |
| Material | | | | | | | | | , | | | | |
| Operator | | | | | | | | | | | | | |
| Offset/Setup | | | | | | | | | | | | | |
| Process | | | | | | | | | | | | | |
| Supplier | | | | | | | | | | | | | |
| Training | | | | | | | | | | | | | |
| Transport | | | | | | | | | | | | | |
| Unapproved | | | | | | | | | | | | | |
| | | | | | | | FAI | ULT CAT | regory | | | | |
| Landi | ng (| Gear | | | | General | | | | | _ | | |
| | | Bending | | | | Bend | | Folio/F | rogram | | Outside Dim | ensions | Pressure/Forced |
| | | Centre No | ot Concer | ntric | | BOM/Route | | Grain | | L | Over/Under | tolerance | Set-up |
| | | Cracks | | | | Broken/Damage/Defect | | Hardwa | re | · L | Part Incorred | ct | Temperature/Cure |
| | _ | Crimp/Kir | ık/Ripple | /Wave | | Burrs | | Inspect | ion Incomplete/Ur | nqualified | Part Lost/Mi | ssing | Weld |
| , | | Cuffs | | | | Contamination | | 1 | ions Incomplete/U | Jnclear | Part Moved | L | Wrong Stock Pulled |
| | | Crushing | | | | Countersink | | 1 | ned/off center | | Positioned V | _ | _ |
| | | Heat Trea | | | \vdash | Cut Too Short | _ | Mislabe | | | Power Loss/ | Surge | Other |
| | <u> </u> | Inspection | | Tube | _ | Drawing | | Misread | 1 | | | | |
| | <u> </u> | Marks/Ch | | | _ | Drill Holes | _ | Off-set | | | | | |
| | _ | Turning S | | | <u> </u> | Finish | | ł | Calibration | | | | · · · · · · · · · · · · · · · · · · · |
| | | Wave/Tw | ist in Tub | e | | Fit/Function | | Out of S | Sequence | | | | |

Page 1/

Work Order ID:

102937

Parent Item:

D4012-1

Parent Item Name:

Cushion

Start Date: 6/11/13

Required Date: 6/11/13

Start Qty: 16.00

Required Qty: 16.00

Comments:

IPP RevA: New issue 09.10.28 DD verified by:JLM

IPP RevB: revA as per dwg

09.11.18 DD verified by:JLM

by:JLM

IPP Rev:C 11.01.10 as per dwg Rev.B DD verified

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|----------------------|---------------|----------------|--------|
| D4287-3 | | Manufactured | No | | · | 100 | f | 30.7600 | 0.37 | 6.2315792 | | | |
| UHMW U-Channel | | | | | | | | | | 2004 (CA/CA) (CA/CA) | · | the .v | |
| | | | | Location | | Loc Oty | <u>Lo</u> | c Code | | | | | |
| | | | | ST202 | | 6.4 | | _ | -7 / | 997' | | | |

91102 6.4 ST209a 24.36 [07824] 24.36

| DQA: | | | Date: | | | | | | | | | | | | |
|---------------|------|------------|---------------|----------|----------|------------------------------|---------|---------|--------------------|------------|------|---------------|---------------|----------|---------------------------------------|
| QA Closed: | | | Date: | | | WORK ORDER NON- | -CC | ONFO | RMANCE / UI | | 18/6 | ork Order up | udata anly | | AEROSPACE |
| QA Closed. | | | Date. | | | | T | | | | VVC | nk Order up | date only | Ш | |
| Work Orde | er: | | | | | DISPOSITION | | | | AGAINST | DE | PARTMENT | /PROCESS | | |
| | - | • • • • • | | | | Rework | | | Skid-tube | Crosstube | | | Water Jet | | Engineering |
| Part N | No. | | | | | Scrap | | ! | Machining | Small Fab | | Pro | d. Eng. Coor. | | Quality |
| | _ | , | | | | Use-as-is | | Thern | noforming | Finishing | | Rec/Stor | e/Packaging | | Other |
| NCR N | ۱o | · · | | | _ | Suspected Unapproved | | | Large Fab | Composite | | | Supplier | | |
| Root | | | | | Desci | ription of work order update | - 1 | nitial | Act | ion | | Sign & | <u> </u> | — | |
| Cause | | Date | Step | Qty | | or non-conformance | | ief Eng | 1 | ription | | Date | Verificatio | n | QC Inspector |
| Design | | | · · · · · · · | | | | | , , | | · | | | | | · · · · · · · · · · · · · · · · · · · |
| Doc/Data | | | | | | | | | : : : | | | | | 1 | |
| Equip/Tooling | Ш | | | | | | 1 | | | | | | | | |
| Handling/Pre | | | | | | | İ | | | | | | | | |
| Material | | | | | | | | | | | | | | | |
| Operator | | | | | | | | | | | | | | | |
| Offset/Setup | | | | | | | | | | | | | | 1 | |
| Process | Ш | | : | : | | | | | | | | | | | |
| Supplier | Ш | | | | | | | | | | | | | ! | |
| Training | Ш | | | | | | | | | | | | | | |
| Transport | Ш | | 1 | | | | | | | | | | | | |
| Unapproved | | | | <u> </u> | | | | | | | | | | | |
| | | | | | | | FAI | ULT CA | TEGORY | | | | | | |
| Landi | ng G | iear | | | , | General | _ | | | • | | , | | | • |
| | Ш | Bending | | | | Bend | | Folio/F | Program | | | Outside Dim | ensions | | Pressure/Forced |
| | Ш | Centre No | ot Concer | ntric | | BOM/Route | <u></u> | Grain | | | | Over/Under | tolerance | _ | Set-up |
| | Ш | Cracks | | | | Broken/Damage/Defect | | Hardwa | are | | | Part Incorred | ct | <u> </u> | Temperature/Cure |
| | Ш | Crimp/Kir | nk/Ripple | e/Wave | _ | Burrs | | Inspect | ion Incomplete/Ur | nqualified | | Part Lost/Mi | ssing | L | Weld |
| | Ш | Cuffs | | | | Contamination | | 4 | tions Incomplete/l | Jnclear | | Part Moved | | <u></u> | Wrong Stock Pulled |
| | - | Crushing | | | | Countersink | | 1 ' | gned/off center | | _ | Positioned V | _ | _ | 1 |
| | Ш | Heat Trea | it | | | Cut Too Short | | Mislabe | eled | | | Power Loss/ | Surge | L | Other |
| | | Inspection | n Strip in | Tube | | Drawing | | Misrea | d | | | | | | |
| | Ш | Marks/Ch | atter | | | Drill Holes | | Off-set | | | | | | | |
| | Ш | Turning S | equence | | | Finish | | Out of | Calibration | | | | - | | |
| | Ιİ | Wave/Tw | ist in Tub | ne | 1 | Fit/Function | 1 | Out of | Samianca | | | | | | |

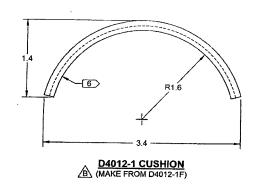
| DART AEROSPACE LTD | Work Order: | 10293+ |
|------------------------------|--------------|-------------|
| Description: Cushion | Part Number: | D4012-1 |
| Inspection Dwg: D4012 Rev: B | | Page 1 of 1 |

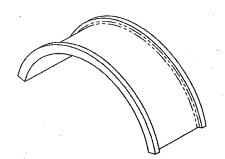
FIRST ARTICLE INSPECTION CHECKLIST

| Drawing Dimension | Tolerance | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|----------------------|---|---------------------|--------|---------------------------------------|----------------------|-------------------------|
| 1.25 | +/-0.030 | 1,247 | / | | MUP-04 | Vern |
| 1.050 | +/-0.010 | 1,047 | | | MJP-04 | vern |
| 0.10 | +/-0.030 | 0,097 | / | | 1418-04 | Vern |
| 4.41 | +/-0.030 | 4,400 | / | | 1418.04 | vern |
| MOORIV | MARRINI | 21111111 | 00000 | MM | MUMI | <i>0000000000000000</i> |
| 0.17 | +/-0.030 | 0,174 | | | 1418-04 | vern |
| 0,076 | + 0,015 | 0,086 | / | | 1118-04 | vern |
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|--------------|----------|----------------|-----------------------|--|
| Measured by: | auf | Audited by: | Preliminary Approval: | |
| Date: | 13/07/29 | Date: 13/07/29 | Date: | |
| | | | | |

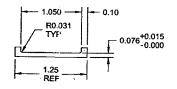
| Rev | Date | Change | Revise | ed by | Approved |
|---------------------------------------|----------|-----------------|--------|-------|----------|
| Α | 11.01.17 | New Issue | KJ | 10 | 1011 |
| В | 12.08.02 | Dwg Rev updated | KJ | 47 | - CM |
| · · · · · · · · · · · · · · · · · · · | | | | 1/1 | |





0.17 -

& D4012-1F FLAT MACHINED STATE



DELEASED 2010-12-23

| R | CHANG | ED RAW MA | TERIAL TO REDUCE MANUFACTURING | | |
|--------|--------|-------------|---|-----------------|----------------|
| В | RADIUS | S. REF: PAR | MACHINED FLAT AND SHAPED WITH 10-29 | MB | 10.12.07 |
| A | NEW IS | SUE | | MB | 09.10.19 |
| REV. | | | DESCRIPTION | BY | DATE |
| DESIG | N | | DART AEROSPA | CEL | TD |
| DRAW | N | | HAWKESBURY, ONTARI | | |
| CHECK | ŒD | AND | DRAWING NO. | | REV. B |
| MFG. A | PPR. | 250 | ─ D4012 | | SHEET 1 OF 1 |
| APPRO | OVED | W | TITLE | | SCALE |
| DE APP | PR. | -# | CUSHION | | NTS |
| DATE | 10.1 | 2.07 | COPYRIGHT © 2009 BY DART A THE COCUMENT OF PROVIDE HER CONFEDENCE, AND IS EMPLOY NOT TO SE USED FOR ANY PURPOSE OR COPED OR COMMENCE. | HEO ANY OLI COL | STREET HOSTONO |

NOTES:
1) MATERIAL: MAKE FROM D4287-3 (A)
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4012-1" AND B/N "BXXXXX" PER QSI 044 6.1
7) WEIGHT: 0.02 lbs

3